

PCA P13

The Inspection and Acceptance of Architectural Paints on the Interior Surfaces of Structures When Dry Film Thickness is Specified

1. Scope

- 1.1 This Standard establishes procedures for the inspection and acceptance of architectural paints on the interior surfaces of structures when dry film thickness is specified.
- 1.2 This Standard establishes a procedure for measuring and testing the thickness of interior architectural paints to determine compliance with the manufacturer's technical application instructions and the painting specifications.
- 1.3 This Standard establishes a procedure for the calculation of paint dry film thickness (DFT) when specified by the painting specifications.
- 1.4 It is intended that this Standard be used where the painting specifications require a paint dry film thickness.
- 1.5 This Standard does not address the inspection and acceptance of industrial protective coatings and linings or exterior paints.

2. Significance and Use

- 2.1 The criteria to be used to inspect and accept the application of paint to interior surfaces of architectural structures may be unclear and ill-defined in the project documents. This condition creates confusion for both the Painting Contractor and the contracting entity which results in extraordinary costs and time delays.
- 2.2 When interior surfaces of structures are painted with architectural paints, then a properly painted surface defined by PCA Standard P1 should be the criterion for inspection and acceptance.
- 2.3 Dry film thickness should be a criterion for inspection and acceptance when industrial protective coatings and linings and exterior paints are applied on metal substrates.
- 2.4 When dry film thickness is to be considered a criterion for the inspection and acceptance of architectural paints on the interior surfaces of structures, then a method for measurement must be established.
- 2.5 The paint manufacturer's technical data regarding the specific products utilized shall determine the dry film thickness requirements of a coat of paint.

3. Definitions and Trade Terms

3.1 Definitions and Trade Terms see P9.

4. Reference Documents and Standards

4.1 Reference Documents and Standards see P9.

5. Standard Specification

5.1 Unless otherwise clearly defined in the contract documents, acceptance of architectural paints on interior surfaces is a properly painted surface, PCA Standard P1. A properly painted surface is one that is applied in accordance with the contract documents, the manufacturer's printed Technical Data Sheet(s) and is uniform in appearance, color, texture, hiding and sheen. It is also virtually free of foreign material, lumps, skins, runs, sags, holidays, misses, or insufficient coverage. It is also a surface free of drips, splatters, spatters, spills, cracks, or overspray caused by the Painting Contractor's workforce or its assigns.

5.2 When the bid documents, and ultimately the contract documents clearly state that the measurement of dry film thickness shall be a criterion for acceptance of painted interior surfaces of architectural surfaces or structures, then the following conditions shall apply:

5.2.1 A third party inspector as defined and meeting the requirements of PCA Standard P-2 shall be utilized for the inspection and acceptance of architectural paints on the interior surfaces of structures whose expense shall be borne by the contracting entity.

5.2.2 The dry film thickness of each coat required shall be based on the manufacturer's percent solids by volume. The formula $DFT = \% SBV \times 1604 / SF$ shall be used to calculate the thickness of each coat where DFT is the dry film thickness in mils; % SBV is the percent solids by volume of the specific material, and SF is the manufacturer's recommended spreading rate for that material. In the event of a conflict between the manufacturer's data and the bid documents, the current manufacturer's data shall prevail.

5.2.3 Non-destructive methods shall be used to measure the dry film thickness of architectural paints on the interior surfaces of structures to avoid damage to the painted surfaces.

- 5.2.4 Measuring devices should be properly calibrated prior to use. The accuracy of the instrument shall be verified by measuring reference standards that cover the range of the expected dry film thickness.
- 5.2.5 Precise locations to be tested shall be selected randomly and shall be geometrically representative of the surface being tested.
- 5.2.6 Three measurements shall be made in close proximity, within a two inch diameter circle, and averaged to determine a spot measurement. Any unusually high or low readings that are not repeatable shall be discarded.
- 5.2.7 One spot measurement shall be made for every 100 square feet of surface area of various substrates, where the measurement of surface area is in accordance with PCA Standard P10.
- 5.2.8 It is recognized that it is not possible to field apply paints at a consistent dry film thickness. Therefore, the dry film thickness for any spot shall be at least 80% of the specified dry film thickness as defined by 5.2.2 and the average of all spot measurements shall be at least 95% of the specified dry film thickness. If a maximum thickness is specified, then the average of all spot measurements shall not be greater than 105% of the maximum thickness.
- 5.2.9 If any spot is not in compliance with the requirements of 5.2.8, then the area containing that spot shall be repainted to the nearest break to achieve compliance.
- 5.2.10 When a Benchmark Sample is prepared in accordance with PCA Standard P5, then dry film measurements shall be made on the sample and the accepted values will be used as a basis for acceptance

6. Comments

- 6.1 This Standard establishes a consistent method for the inspection and acceptance of architectural paints on the interior of structures.
- 6.2 This Standard establishes that visual appearance is the prime criterion for the acceptance of architectural paints on the interior of structures.
- 6.3 This Standard defines a protocol when the measurement of dry film thickness is a criterion for the acceptance of architectural paints on the interior surfaces of structures.
- 6.4 The measurement of dry film thickness on porous surfaces such as drywall or concrete block may be inaccurate due to porosity of the substrate and surface profile.



- 6.5 This Standard clarifies areas of responsibility. Improved communication reduces misunderstandings.
- 6.6 This Standard is a nationally recognized consensus document for the painting and coating industry's work practices.

7. Disclaimer of Liability

- 7.1 PCA does not warrant or assume any legal liability or responsibility for the accuracy, completeness, or usefulness of any of the information contained herein.